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**PHOTOPOLYMERIZING COMPOSITION**

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The present invention relates to the industrial production of printing formes for letterpress, relief-and-offset and flexographic printing and can be used in the printing industry and in other sectors of the national economy.

The well-known photopolymerizing compositions are based on aqueous solutions of copolyamides, monomers (or oligomers), photoinitiators, photosensitizers and substances that inhibit

thermal polymerization.

However, these compositions do not always ensure an improved visual perception and colour reproduction of the photopolymerizing printing formes based on them.

The aim of the present invention is therefore to stabilize the process used for the production of photopolymerizing plates and improve the quality of the prints. For this purpose, it is recommended that organosilicon compounds, such as for example the organosilicon liquid GKZh094, should be introduced into the photopolymerizing composition.

#### **Example**

Ingredients of the photopolymerizing composition in parts by weight:

- |  |            |
|--|------------|
| - Water-soluble copolyamide formed by ethylene diglycolic acid, piperazine and hexamethylene diamide (a 25% solution in 75% ethanol) | 100        |
| - N,N-Methylene bis-acrylamide   | 80-100     |
| - Benzoin  | 0.5        |
| - Organosilicon liquid GKZh  | 0.15-0.20. |

The photopolymerizing plates made by the conventional methods but by the use of this composition are smoother and glossier. The photopolymer printing formes made from these plates by

exposing them under a negative to luminescent LUF-80 UV lamps for 10-15 minutes, with the dissolution of the blanks in cold or hot water, have a great flexibility, a high resolution (more than 150 lines per cm), a good separating ability (less than 60  $\mu$ m), and the required outlines of the printing image details.

The determination of the wetting angle of the surface of the photopolymerizing plates made from water-soluble copolyamides, and of the photopolymer printing formes made from them, has shown that, without the introduction of the organosilicon liquid GKZh-94 into the composition, the surface is hydrophilic, the maximum value of the contact angle of wetting with water in oil being 30° for the plate and 48° for the forme. When the organosilicon liquid GKZh-94 is introduced into the composition, however, the surface becomes hydrophobic, the wetting angle being up to 45° for the plate and up to 70-75° for the forme when the concentration of GKZh-94 is 0.15-0.20 parts by weight, calculated on the weight of the polyamide.

Examination of the visual impression and the colour reproduction carried out under laboratory conditions with the aid of an ITT-AC2 instrument, has shown an improvement both in the visual impression and in the colour reproduction, ensuring an increase in the saturation of the prints.

The optical density of the prints on coated (chalk) paper is 5-10% higher than that of photopolymer formes made without the use of GKZh-94.

### Claims

1. Photopolymerizing composition based on a water-soluble copolyamide, a monomer (oligomer) of the acrylic series, a photosensitizer, a photoinitiator and a substance that inhibits thermal polymerization, characterized in that, in order to stabilize the process of producing photopolymerizing plates and to improve the quality of the prints, an organosilicon compound is introduced into the said composition in an amount of 0.15-0.20 parts by weight, calculated on the weight of the copolyamide.

2. Composition according to Claim 1, characterized in that the organosilicon compound used is the organosilicon liquid GKZh-94.